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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,940	12/19/2000	Stephen J. Fonash	30626-101	4788

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EXAMINER	
TRAN, MY CHAU T	

ART UNIT	PAPER NUMBER
1639	

DATE MAILED: 09/04/2003

26

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/739,940	FONASH ET AL.	
	Examin r	Art Unit	
	My-Chau T. Tran	1639	

-- The MAILING DATE f this communication appears on the cover sheet with the corresp ndence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,7,10-12,14-19,66,67,69,70 and 119-124* is/are pending in the application.

4a) Of the above claim(s) *119-124* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6,7,10-12,14-19,66,67,69 and 70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☒ Interview Summary (PTO-413) Paper No(s). *26* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/24/03 has been entered.

2. Applicant's amendment filed 6/24/03 in Paper No. 25 is acknowledged and entered. Claim 1 is amended by the amendment. Claims 119-124 are added by the amendment.

3. Claims 1-3, 6-7, 10-12, 14-19, 66-67, 69-70, and 119-124 are pending.

Election/Restrictions

4. Newly submitted claims 119-124 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

A. Claims 1-3, 6-7, 10-12, 14-19, 66-67, 69-70, drawn to a method for the analysis of a sample, classified in class 435, subclass 6. (*Elected invention; see Paper No. 9*)

B. Claims 119-124, drawn to an apparatus, classified in class 422, subclass 88.

Inventions of Group A and Group B are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another materially different apparatus or by hand.

Because these inventions are distinct for the reasons given above and the searches required are not co-extensive thus requiring a burdensome search, restriction for examination purposes as indicated is proper. Additionally, different patentability considerations are involved for each group. For example, a patentability determination for Group A would involve a determination of the patentability of a method for the analysis of a sample while a patentability determination for Group B would involve a consideration of the patentability of the combination of an apparatus. These considerations are very different in nature.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 119-124 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

5. Claims 1-3, 6-7, 10-12, 14-19, 66-67, and 69-70 are treated on the merit in this Office Action.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-3, 6-7, 10-12, 14-19, 66-67, and 69-70 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. (This is a new matter rejection.)

The instants claim 1 briefly recites a method for the analysis of a sample comprising (a) applying said sample to a deposited continuous thin film wherein the deposited continuous thin film have a ***desired tailored morphology***.

The recitation of *'desired tailored morphology'* claimed in claim 1, have no clear support in the specification and the claims as originally filed. The specification in page 4, lines 20-21, disclosed 'We show such films have tunable chemical and physical properties'; page 9, lines 21-22, disclosed 'The criteria for selecting a particular film is based on properties of the film such as laser-light reflection, optical absorption, species absorption, and ambient absorption'; and page 10, lines 18-24, disclosed 'The film morphology selection is based on the properties needed for the application. For example, in applications where sample confinement is an issue, the spacing and height of the network of columnar-like units of the columnar/void network morphology film structure may be adjusted to reduce lateral drop spreading of the analyte. The film structure is selected from Table 1 as needed, based on one or more film attributes: low laser-light reflection (which may also include the use of AR coatings), strong

optical absorption, species adsorption, and ambient adsorption' (as indicated by applicant) is not support for '***desired tailored morphology***'. Because the narrow limitation of the specification recites the chemical and physical properties of the film, does not support the broad limitation of the claim, which recites ***desired tailored morphology***. Further, the specification in page 10, lines 18-24, refers to "*the network of columnar-like units of the columnar/void network morphology film*" **not** continuous thin film. Therefore, the scope of the invention as originally disclosed in the specification would not encompass the scope of the limitation of the deposited continuous thin film having a ***desired tailored morphology***.

If applicants disagree, applicant should present a detailed analysis as to why the claimed subject matter has clear support in the specification.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-3, 6-7, 10-12, 14-19, 66-67, and 69-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) The term "substantially" of claim 1 is a relative term, which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

b) The term "tailored" of claims 1 is a relative term, which renders the claim indefinite. The term "tailored" is not defined by the claim, the specification does not provide a standard for

ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-2, 10, 12, 14, and 69-70 are rejected under 35 U.S.C. 102(b) as being anticipated by Hutchens et al. (US Patent 5,719,060).

Hutchens et al. disclose a method and apparatus for affinity-directed detection of analytes, including desorption and ionization of analytes in which the analyte is not dispersed in a matrix solution or crystalline structure but is presented within, on or above an attached surface absorbing "matrix" material (thin film) (col. 4, lines 11-22). The method step comprise of exposing the derivatized surface of the substrate to a source of the analyte molecule so as to bind the analyte molecule to the surface and analyze the analyte by mass spectrometry (col. 16, lines 46-62). The analyte include biological macromolecules such as peptides and lipids (referring to claims 2 and 70) (col. 12, lines 4-11). The source of the analyte is liquid (referring to claim

69)(col. 35, lines 27-47). Therefore, the method and apparatus of Hutchens et al. anticipates the presently claimed invention.

Response to Arguments

12. Applicant's argument(s) directed to the above rejection under 35 USC 102(b) as being anticipated by Hutchens et al. (US Patent 5,719,060) for claims 1-2, 10, 12, 14, and 69-70 were considered but they are not persuasive for the following reasons.

Applicant alleges that "[H]utchens does not disclose obtaining a *desired morphology of a deposited thin film where* the *desired morphology id tailored. The tailoring of the morphology and the absence of an organic matrix (p. 27, lines 13-14) would enable one having ordinary skill in the art to recognize that the sample is not attached to the tailored morphology thin film by chemical attachment to surface associated molecules. The originally filed disclosure would convey to one skilled in the art that the sample is not attached to the tailored morphology thin film by chemical attachment to surface associated molecules.*"

Applicant's arguments are not convincing since Hutchens et al. do disclosed a desired morphology of a deposited thin film. Hutchens et al. disclose a method "for affinity-directed detection of analytes, including desorption and ionization of analytes ***in which the analyte is not dispersed in a matrix solution*** or crystalline structure but is presented within, on or above an attached surface of energy absorbing "matrix" material through molecular recognition events, in a position where it is accessible and amenable to a wide variety of chemical, physical and biological modification or recognition reactions" (e.g. applying said sample to a deposited thin film by either adsorption or directly to a surface of said deposited continuous thin film, which have a desired tailored morphology and the absence of an organic matrix) (col. 4, lines 11-22).

Further, Hutchens et al. disclosure that the "[s]ample presenting means utilizing surface associated molecules to effectuate the chemical attachment of sample to the sample presenting means (col. 14, lines 36-41)" refers to the presently claimed invention of claims 1, 10, and 12. Thus the method of Hutchens et al. anticipates the presently claimed method.

Additionally, applicant asserted that one skill in the art would interpret that "the absence of an organic matrix" (pg. 27, lines 13-14 of specification) to mean that the "*sample is not attached to the tailored morphology thin film by chemical attachment to surface associated molecules*". It is requested that applicant provide factual evidence (e.g. patent and/or non-patent literature) that such an interpretation is made by one skill in the art not mere statement of such an interpretation. Further if applicant does provide such evidence, it is perplexing as to the claimed invention with regard to claims 10-12 in which the continuous thin film is chemically modifying to react with or adherence with the sample.

13. Claims 1-3, 10, 12, 14, 17, 66, and 69-70 are rejected under 35 U.S.C. 102(e) as being anticipated by Nelson et al. (US Patent 5,955,729).

Nelson et al. teach a method for analyzing and identifying an analyte within a sample (col. 3, lines 41-63). The method step comprise of capturing the analyte by contacting the analyte with an interactive surface layer affixed to a conductive material and measuring the mass spectrum of the analyte by mass spectrometer (col. 12, lines 47-67). The conductive material includes metals (col. 3, lines 66-67). The analyte is in solution (col. 8, lines 19-21) and includes molecules such as proteins, lipids, and eukaryotic cells (col. 7, lines 22-32). The samples are delivered to the surface in regulated low volumes by a fully automated delivery flow systems

(col. 8, lines 36-54). Therefore, the method of Nelson et al. anticipates the presently claimed invention.

Response to Arguments

14. Applicant's argument(s) directed to the above rejection under 35 USC 102(e) as being anticipated by Nelson et al. (US Patent 5,955,729) for claims 1-3, 10, 12, 14, 17, 66, and 69-70 were considered but they are not persuasive for the following reasons.

Applicant alleges that "[N]elson does not disclose obtaining a *desired morphology of a deposited thin film where* the *desired morphology id tailored. The tailoring of the morphology and the absence of an organic matrix (p. 27, lines 13-14) would enable one having ordinary skill in the art to recognize that the sample is not attached to the tailored morphology thin film by chemical attachment to surface associated molecules. The originally filed disclosure would convey to one skilled in the art that the sample is not attached to the tailored morphology thin film by chemical attachment to surface associated molecules.*"

Applicant's arguments are not convincing since Nelson et al. do disclosed a desired morphology of a deposited thin film. Nelson et al. disclose for analyzing and identifying an analyte within a sample wherein involves capturing the analyte by contacting the analyte with an interactive surface layer affixed to a conductive material (col. 3, lines 41-63) (e.g. applying said sample to a deposited thin film by either adsorption or directly to a surface of said deposited continuous thin film). The interactive surface layer includes hydrogel (col. 3, lines 64-66) (e.g. deposited continuous thin film have a desired tailored morphology and the absence of an organic matrix). Thus the method of Hutchens et al. anticipates the presently claimed method.

Additionally, applicant asserted that one skill in the art would interpret that "the absence of an organic matrix" (pg. 27, lines 13-14 of specification) to mean that the "*sample is not attached to the tailored morphology thin film by chemical attachment to surface associated molecules*". It is requested that applicant provide factual evidence (e.g. patent and/or non-patent literature) that such an interpretation is made by one skill in the art not mere statement of such an interpretation. Further if applicant does provide such evidence, it is perplexing as to the claimed invention with regard to claims 10-12 in which the continuous thin film is chemically modifying to react with or adherence with the sample.

15. Claims 1-2, 6-7, 10-12, 14, 17, 66, and 69-70 are rejected under 35 U.S.C. 102(e) as being anticipated by Siuzdak et al. (US Patent 6,288,390).

Siuzdak et al. teach a method for ionizing an analyte from light-absorbing semiconductors and the analyzing the ionized analyte (col. 4, lines 10-13). The method comprise of introducing a quantity of an analyte to a substrate to form an analyte-loaded substrate and analyzing the analyte by mass spectrometry (col. 4, lines 14-30; col. 7, lines 64-67 to col. 8, lines 1-8). The method step of loading the analyte onto a porous semiconductor substrate refer to as the analyte molecules being trapped or sorbed on the substrate (col. 8, lines 15-25). The semiconductor substrate includes semiconductors such as silicon and germanium (col. 8, lines 34-67 to col. 9, lines 1-10). The porous silicon substrate comprise of a crystalline silicon (substrate) (ref. # 22 of fig. 1(c)) and etched porous region that is modified chemically to improve control of the loading of the analyte (thin film) (ref. #20 and 26 of fig. 1(c)). The

analyte of interest includes peptides, natural products, and small drug molecules (col. 19, lines 14-22). Therefore, the method of Siuzdak et al. anticipates the presently claimed invention.

Response to Arguments

16. Applicant's argument(s) directed to the above rejection under 35 USC 102(e) as being anticipated by Siuzdak et al. (US Patent 6,288,390) for claims 1-2, 6-7, 10-12, 14, 17, 66, and 69-70 was considered but they are not persuasive for the following reasons.

Applicant contends that "[S]iusdak does not teach use of continuous thin film, wherein the *continuous film is substantially void free*."

Applicant's arguments are not convincing since Siuzdak et al. do disclose a continuous thin film that is substantially void free. Siuzdak et al. disclose a method for ionizing an analyte from light-absorbing semiconductors and the analyzing the ionized analyte (col. 4, lines 10-13). The method comprises a "porous silicon surface can be modified with a termination (otherwise referred to as a coating, modification, or monolayer)" (col. 10, lines 13-15) (e.g. a continuous thin film that is substantially void free). Thus the method of Siuzdak et al. anticipates the presently claimed invention.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 1-2, 6-7, 10-12, 14, 17-19, 66-67, and 69-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siuzdak et al. (US Patent 6,288,390) in view of Mian et al. (US Patent 6,319,469).

Siuzdak et al. teach a method for ionizing an analyte from light-absorbing semiconductors and the analyzing the ionized analyte (col. 4, lines 10-13). The method comprise of introducing a quantity of an analyte to a substrate to form an analyte-loaded substrate and analyzing the analyte by mass spectrometry (col. 4, lines 14-30; col. 7, lines 64-67 to col. 8, lines 1-8). The method step of loading the analyte onto a porous semiconductor substrate refer to as the analyte molecules being trapped or sorbed on the substrate (col. 8, lines 15-25). The semiconductor substrate includes semiconductors such as silicon and germanium (col. 8, lines 34-67 to col. 9, lines 1-10). The porous silicon substrate comprise of a crystalline silicon (substrate) (ref. # 22 of fig. 1(c)) and etched porous region that is modified chemically to improve control of the loading of the analyte (thin film) (ref. #20 and 26 of fig. 1(c)). The

analyte of interest includes peptides, natural products, and small drug molecules (col. 19, lines 14-22).

The method of Siuzdak et al. does not expressly disclose that the sample is prepared by a separation means.

Mian et al. teach a device for performing microanalytical assays of biological, chemical, environmental, and industrial samples (col. 6, lines 24-27). The samples can be pre-concentrated and purified on the device by incorporating aqueous two-phase separation systems (col. 35, lines 9-23).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include that the sample is prepared by a separation means as taught by Mian et al. in the method of Siuzdak et al. One of ordinary skill in the art would have been motivated to include that the sample is prepared by a separation means in the method of Siuzdak et al. for the advantage of providing a pre-concentrated or purified sample. Since Mian et al. disclose that the device is useful for preparing samples for other analytical instruments such as mass spectrometry (col. 35, lines 1-8).

Response to Arguments

20. Applicant's argument(s) directed to the above rejection under 35 USC 103(a) as being unpatentable over Siuzdak et al. (US Patent 6,288,390) in view of Mian et al. (US Patent 6,319,469) for claims 1-2, 6-7, 10-12, 14, 17-19, 66-67, and 69-70 was considered but they are not persuasive for the following reasons.

Applicant contends that since "[S]iusdak does not teach use of continuous thin film, wherein the *continuous film is substantially void free*, Siusdak when combined with Main does

not teach a method for the analysis of a sample including applying the sample to a deposited continuous thin film by either adsorption or directly to a surface of the deposited continuous thin film, wherein the *continuous film is substantially void free*."

Applicant's arguments are not convincing since Siuzdak et al. do disclose a continuous thin film that is substantially void free. Siuzdak et al. disclose a method for ionizing an analyte from light-absorbing semiconductors and the analyzing the ionized analyte (col. 4, lines 10-13). The method comprises a "porous silicon surface can be modified with a termination (otherwise referred to as a coating, modification, or monolayer)" (col. 10, lines 13-15) (e.g. a continuous thin film that is substantially void free). Therefore the methods of Siuzdak et al. and Mian et al. do teach the presently claimed method for the analysis of a sample including applying the sample to a deposited continuous thin film by either adsorption or directly to a surface of the deposited continuous thin film, wherein the continuous film is substantially void free.

21. Claims 1, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siuzdak et al. (US Patent 6,288,390) in view of Farmer et al. (*J. Mass Spectrom.*, **1998**, 3:697-704).

Siuzdak et al. teach a method for ionizing an analyte from light-absorbing semiconductors and the analyzing the ionized analyte (col. 4, lines 10-13). The method comprise of introducing a quantity of an analyte to a substrate to form an analyte-loaded substrate and analyzing the analyte by mass spectrometry (col. 4, lines 14-30; col. 7, lines 64-67 to col. 8, lines 1-8). The method step of loading the analyte onto a porous semiconductor substrate refer to as the analyte molecules being trapped or sorbed on the substrate (col. 8, lines 15-25). The

semiconductor substrate includes semiconductors such as silicon and germanium (col. 8, lines 34-67 to col. 9, lines 1-10). The porous silicon substrate comprise of a crystalline silicon (substrate) (ref. # 22 of fig. 1(c)) and etched porous region that is modified chemically to improve control of the loading of the analyte (thin film) (ref. #20 and 26 of fig. 1(c)). The analyte of interest includes peptides, natural products, and small drug molecules (col. 19, lines 14-22).

The method of Siuzdak et al. does not expressly disclose that ammonium citrate is a signal enhancer.

Farmer et al. teach a method of studying protein-protein and protein-ligand interactions by mass spectrometry (pg. 697, left col. 17-19). The mass spectrometry technique is MALDI mass spectrometry. The method comprise of dissolving both the matrix and the analytes in ammonium citrate, which provided an intense signal.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include ammonium citrate as a signal enhancer as taught by Farmer et al. in the method of Siuzdak et al. One of ordinary skill in the art would have been motivated to include ammonium citrate as a signal enhancer in the method of Siuzdak et al. for the advantage of providing a reagent that sequester ion such as salt that is generally found in bimolecular analysis because the salt would form adduct peaks in a mass spectrum that compete with the peaks of the molecular ion dividing and broadening the overall signal. Since Siuzdak et al. disclose that the existing MALDI mass spectrometer can be used to perform the analysis of the analyte-loaded porous semiconductor substrate (col. 13, lines 14-17). Therefore the method of Farmer et al. can be use in the method of Siuzdak et al.

Response to Arguments

22. Applicant's argument(s) directed to the above rejection under 35 USC 103(a) as being unpatentable over Siuzdak et al. (US Patent 6,288,390) in view of Farmer et al. (*J. Mass Spectrom.*, **1998**, 3:697-704) for claims 1, and 15-16 was considered but they are not persuasive for the following reasons.

Applicant contends that "[S]iusdak does not teach use of continuous thin film, wherein the *continuous film is substantially void free*, Siusdak when combined with Farmer does not teach a method for the analysis of a sample including applying the sample to a deposited continuous thin film by either adsorption or directly to a surface of the deposited continuous thin film, wherein the *continuous film is substantially void free*."

Applicant's arguments are not convincing since Siuzdak et al. do disclose a continuous thin film that is substantially void free. Siuzdak et al. disclose a method for ionizing an analyte from light-absorbing semiconductors and the analyzing the ionized analyte (col. 4, lines 10-13). The method comprises a "porous silicon surface can be modified with a termination (otherwise referred to as a coating, modification, or monolayer)" (col. 10, lines 13-15) (e.g. a continuous thin film that is substantially void free). Therefore the methods of Siuzdak et al. and Farmer et al. do teach the presently claimed method for the analysis of a sample including applying the sample to a deposited continuous thin film by either adsorption or directly to a surface of the deposited continuous thin film, wherein the continuous film is substantially void free.

Conclusion

23. No claims allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Chau T. Tran whose telephone number is 703-305-6999. The examiner is on Increased Flex Schedule and can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang can be reached on 703-306-3217. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1123.

mct
September 2, 2003

PADMASHRI PONNALURI
PRIMARY EXAMINER